

A superconducting magnetic energy storage (SMES) device and a high voltage system containing such a device where the electrical insulation of the superconductor is formed by an inner layer of semiconducting material electrically connected to the superconductor, an outer layer of semiconducting material at a controlled electric potential, and an intermediate layer of solid electrically insulating material positioned between the inner and outer layers. The SMES can thus be coupled directly to a high voltage network, allowing load-following to be performed on a transmission or distribution network.

A superconducting magnetic energy storage (SMES) device and a high voltage system containing such a device where the electrical insulation of the superconductor is formed by an inner layer of semiconducting material electrically connected to the superconductor, an outer layer of semiconducting material at a controlled electric potential, and an intermediate layer of solid electrically insulating material positioned between the inner and outer layers. The SMES can thus be coupled directly to a high voltage network, allowing load-following to be performed on a transmission or distribution network.

performed on a transmission or distribution network.--

[illegible]